

REMARKS

This application has been amended in a manner that is believed to place it in condition for allowance at the time of the next Official Action.

Claims 89-103 are pending in the application. Support for claims 89-103 may be found in the original claims and generally throughout the specification. In particular, support may be found for the new claims in the present specification at page 3, lines 14-26; page 8, lines 18-25; page 13, lines 10-15; page 62, lines 1-4; and Figure 13a. Claims 1-88 have been canceled.

Claims 74-81, 84-85 and 88 were rejected under 35 USC §112, first paragraph, for allegedly not satisfying the written description requirement.

However, claims 74-81, 84-85 and 88 have been canceled. Claims 89-103 have been drafted so that transcription factors comprise the recited amino acids. Thus, applicants believe that new claims 89-103 have been drafted in a manner so as to avoid this issue and do not introduce new matter into the present disclosure.

Claims 74-82, 84-85 and 87-88 were rejected under 35 USC §112, first paragraph, for allegedly not satisfying the written description requirement.

Claims 89-94, 97-99 and 101-103 are directed to methods of modulating or increasing in a cantharanthus plant cell the

expression of one or more genes involved in the biosynthesis of particular compounds. Claims 95-96 and 100 are directed to nucleic acids that relate to the claimed method. The pending independent claims are 89, 95, 98, 99, 100, and 101.

Claims 89, 95, and 98, each refer to the transcription factors in one of three ways: i), ii), and iii). The transcription factors recited in i) and ii) are exemplified in the specification (e.g., Example 11) and illustrated in Figure 13a.

Item iii) recites a transcription factor having an amino acid sequence with at least 90% amino acid sequence identity with an amino acid sequence as set forth in i) or ii), wherein the transcription factor enhances the biosynthesis in *Cantharanthus roseus* cells of at least one of tryptophane or tryptamine by at least 10%, when stably expressed in said *C. roseus* cells from a genetic construct comprising a sequence coding for the transcription factor operably linked to a plant promoter.

Thus, the claims refer to structure in that they recite a transcription factor comprising an amino acid sequence relating to SEQ ID NO: 6. The percent identity of the claims is supported at pg. 13, lines 11-16. Furthermore, as shown in Figure 13a, these sequences each contain a well characterized AP 2 domain.

The recitation iii) also refers to advancing the biosynthesis of tryptophane or tryptamine in *Cantharanthus roseus* cells. The synthesis of these materials may be determined by a simple assay that is described in Examples 12 and 13 in the specification.

Thus, the sequences are described in terms of structure and function. Sequences that do not satisfy the structural and functional recitations fall outside the scope of the claim. In this regard, it is believed that the "sequences introduced into the cells" are supported by the present disclosure.

As to *In re Marzocchi*, applicants believe that the case is relevant in that it is a well-founded principle that a description as filed is presumed to be adequate, unless or until sufficient evidence or reasoning to the contrary has been presented by the Examiner to rebut the presumption. Indeed, the Patent Office takes the same position in that the MPEP at 2163.04 burden on the Examiner with regard to the written description requirement refers to this case.

As noted above, structural and functional characteristics are provided for the recited sequences. Thus, it can not be said that the recited sequences are uncharacterized sequences.

As to claims independent 99-101, the recited sequences are disclosed in the specification (e.g., see Example 11) and can be seen in Figure 13A.

Thus, applicants respectfully request that the written description requirement be withdrawn.

Claims 74-82 and 84-88 were rejected under 35 USC §112, first paragraph, for allegedly not satisfying the enablement requirement. This rejection is respectfully traversed.

In imposing the rejection, the Official Action contends that with the exception of $\Delta 5ORCA3$ and $\Delta 3ORCA3$, the present disclosure does not enable nucleotide sequences encoding variants of SED ID No: 6 or methods of using such variants.

However, independent claims 89, 95, and 98 each refer to the transcription factors in one of three ways: i), ii), and iii). The transcription factors recited in i) and ii) are exemplified in the specification (e.g., Example 11) and illustrated in Figure 13a.

Item iii) recites a transcription factor having an amino acid sequence with at least 90% amino acid sequence identity with an amino acid sequence as set forth in i) or ii), wherein the transcription factor enhances the biosynthesis in *Cantharanthus roseus* cells of at least one of tryptophane or tryptamine by at least 10%, when stably expressed in said *C. roseus* cells from a genetic construct comprising a sequence coding for the transcription factor operably linked to a plant promoter. In this regard, it is believed that one skilled in the art would have been guided by sufficient structural and

functional characteristics so as to be able to practice the claimed invention.

As to claims independent 99-101, the recited sequences are disclosed in the specification (e.g., see Example 11) and can be seen in Figure 13A.

Thus, applicants ask that this rejection be withdrawn.

Claims 74 and 75-81 were rejected under 35 USC §112, second paragraph, for allegedly being indefinite. It is believed that the new claims have been drafted so as to avoid these issues. Indeed, the claims indicate that the transcription factors comprise the recited amino acid sequences. In addition, the claims have been drafted to recite active steps in response to the newly-imposed rejection that the claims are "incomplete".

Thus, in view of the above, applicants respectfully request that the rejection be withdrawn.

Claims 74-75 and 78-81 were rejected under 35 USC §102(b) as being allegedly being anticipated by AERTS. This rejection is respectfully traversed.

Applicants respectfully submit that AERTS fails to disclose or suggest the recited active steps set forth in the method claims. The method claims recite active steps of transforming and cultivating cells which are not disclosed by AERTS. Thus, applicants respectfully request that the rejection be withdrawn.

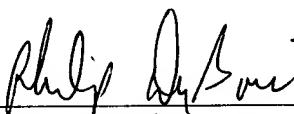
In view of the present amendment and the foregoing remarks, therefore, applicants believe that the present application is in condition for allowance at the time of the next Official Action. Allowance and passage to issue on that basis is respectfully requested.

Please charge the fee of \$400 for two extra independent claims added herewith to Deposit Account No. 25-0120.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

YOUNG & THOMPSON


Philip Dubois, Reg. No. 50,696
745 South 23rd Street
Arlington, VA 22202
Telephone (703) 521-2297
Telefax (703) 685-0573
(703) 979-4709

PD/lrs